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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/572,839

03/21/2006

Hideo Tanaka

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46852

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04/07/2008

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444 S. FLOWER STREET, SUITE 1750

LOS ANGELES, CA 90071

EXAMINER

KIM, RICHARD H

ART UNIT

PAPER NUMBER

2871

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/572,839	Applicant(s) TANAKA, HIDEO	
	Examiner RICHARD H. KIM	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/28/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al. (US 5,949,507) in view of Yang et al. (US 2003/0086036 A1).

3. Referring to claims 1, 3, 4, 6 and 9 Shimada discloses a method of a transfective type of liquid crystal display device comprising the steps of forming an organic material film (42) having projections and depressions on an insulating film on an underlying electrode (37a) in a thin film transistor of an active matrix liquid crystal display device; exposing the insulating film(34) in a contact-hole-forming-area by reducing a thickness of the organic film by a dry etching to the organic material film; and forming a contact hole by a dry etching to the exposed insulating film (col. 6, lines 3 and 4). However, the reference does not disclose using a photo-embossing material, wherein the photo-embossing material is a material patternable by an exposing step and baking step, wherein the organic material film is formed by exposing and baking the photo-embossing material in forming the organic material film, wherein the process is dry.

4. Yang et al. discloses a device comprising a photo-embossing material, wherein the photo-embossing material is a material patternable by an exposing step and baking step, wherein the

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organic material film is formed by exposing and backing the photo-embossing material in forming the organic material film, wherein the process is dry (paragraph 39).

5. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a photo-embossing material as the organic material film, wherein the photo-embossing material is a material patternable by an exposing step and baking step, wherein the organic material film is formed by exposing and backing the photo-embossing material in forming the organic material film, wherein the process is dry since one would be motivated provide a uniform reflection ratio of the LCD panel (paragraph 8).

6. Referring to claim 2, Shimada discloses a method comprising exposing the underlying electrode (37a); and contacting the exposed underlying electrode with a reflective electrode (38) by forming the reflective electrode on the resulting structure.

7. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al. and Yang in view of Maeda et al. (US 7,176,994 B2).

8. Shimada et al. and Yang et al. disclose the method previously recited, but fails to disclose employing a halftone mask or a diffraction mask

9. Maeda et al. discloses a method of using a halftone mask or a diffraction mask (col. 16, line 45).

10. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a halftone mask since one would be motivated to reduce the number of masks used in the fabrication process. Half-tone mask enable varying exposure intensity thereby forming the bumps using a single mask.

11. Claims 7 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada et al. and Yang.

12. Referring to claim 7, Shimada and Yang disclose the method previously recited, but fails to disclose that the step of exposing the insulating film and baking is performed in a single apparatus.

13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to the method to include the step of exposing the insulating film and the step of forming the contact hole to be performed in a single apparatus since it is well known in the art for multiple fabrication steps to be performed in a single apparatus in order to shorten the fabrication time.

14. Referring to claim 8, Shimada and Yang disclose the method previously recited, but fails to disclose the step of exposing the insulating film is a reactive ion etching mode.

15. It would have been obvious to one having ordinary skill in the art at the time the invention was made for the step of exposing the insulating film is a reactive ion etching mode since reactive etching mode is well known in the art in order to perform an accurate etching method.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD H. KIM whose telephone number is (571)272-2294. The examiner can normally be reached on 9:00-6:30 M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard H Kim/
Primary Examiner, Art Unit 2871